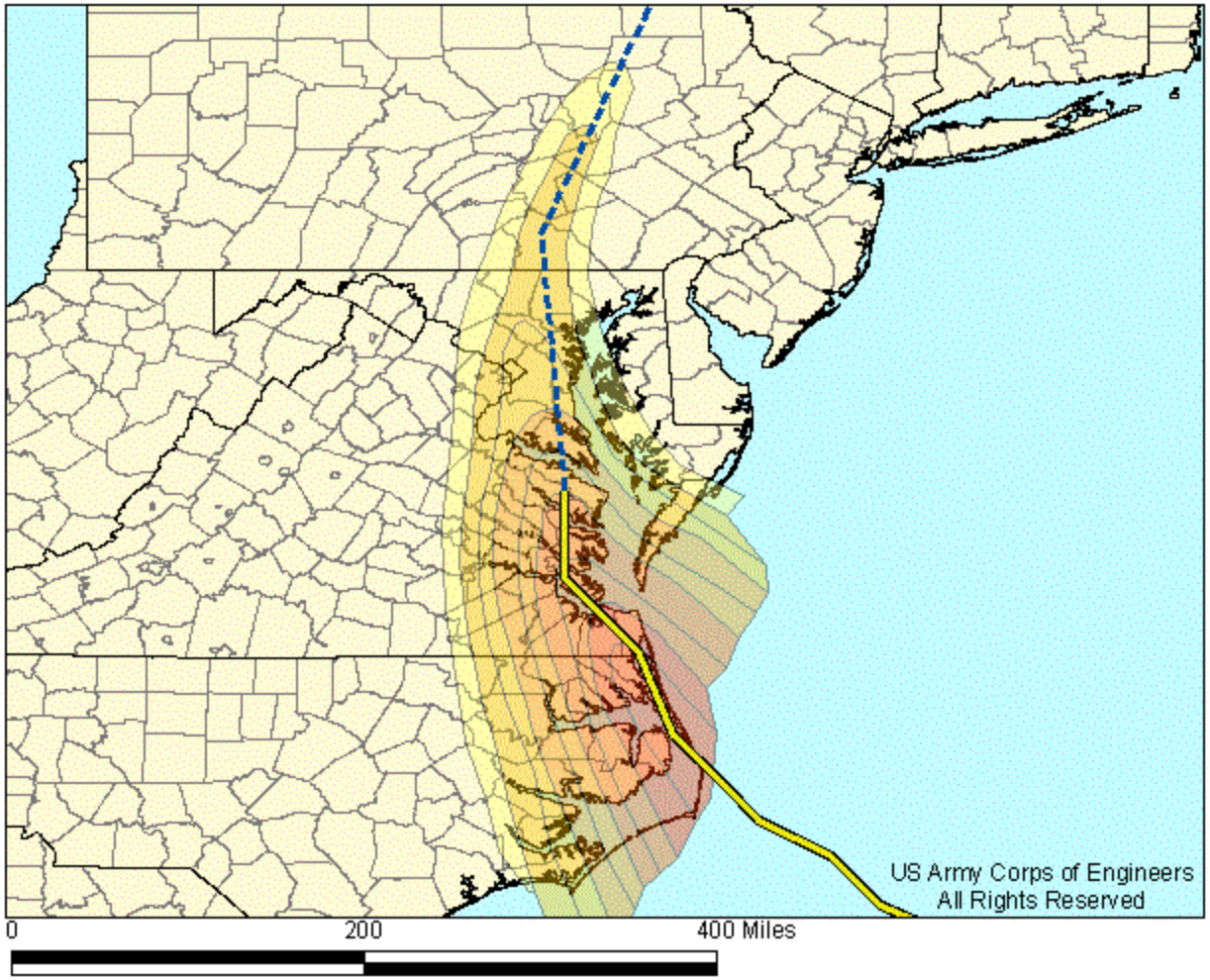
US Army Corps of Engineers

Hurricane Zoe 2008 Projected Damage Areas

Landfall Plus About 12 Hours

For Planning Purposes Only!



Post Landfall Projected Damage Areas

This model is based on a Category 4 storm making landfall on coastal North Carolina.

Forecast Track
Historic Track

Projected Damage Areas

- CAT 0-type damage
- CAT 1-type damage
- CAT 2-type damage
- CAT 3-type damage
- CAT 4-type damage
- CAT 5-type damage

Information provided on this page displays a Category 4 storm making landfall on coastal North Carolina. These projections are based on information from the NHC (2300 EDT 05/07/2008) forecast.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

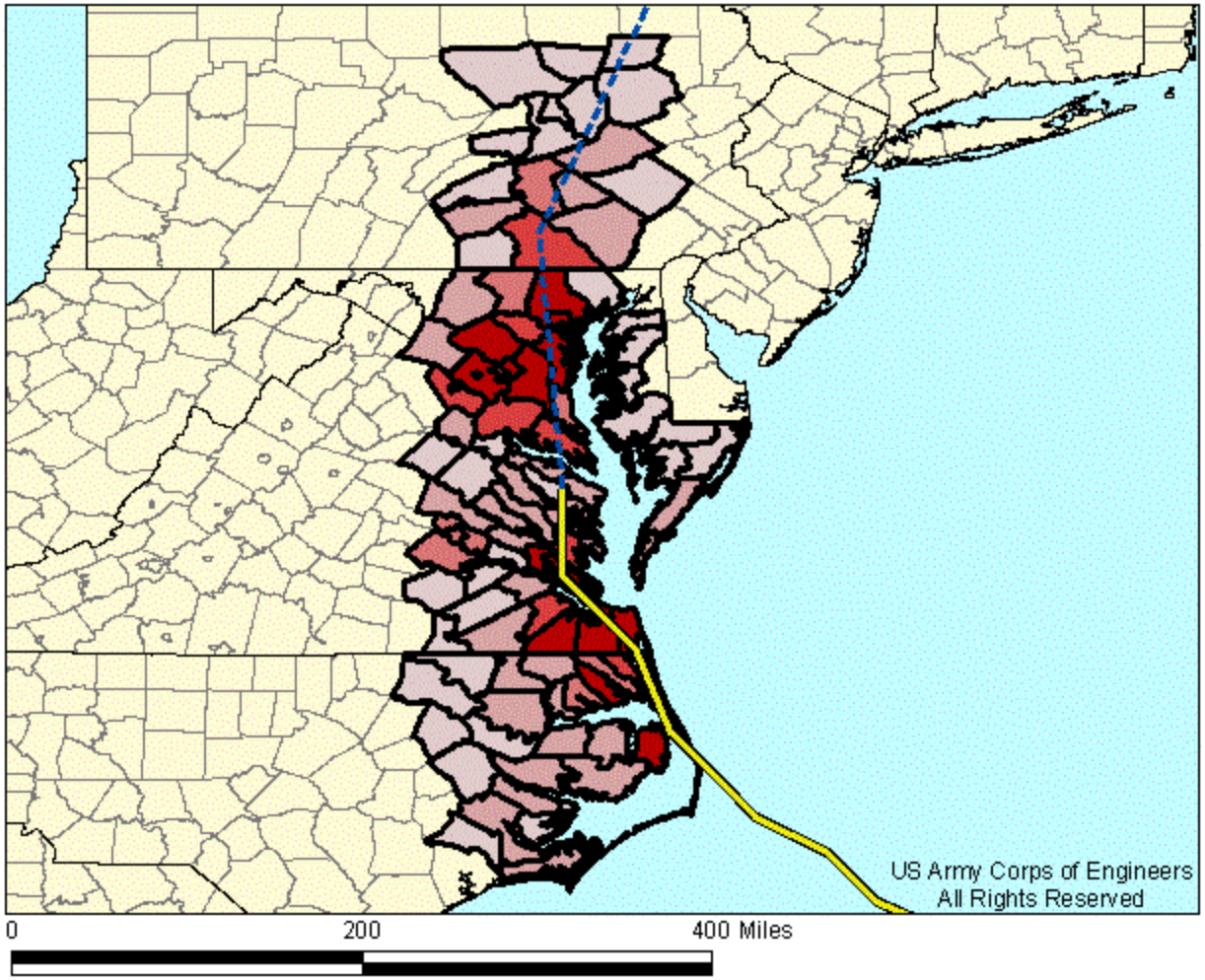
Hurricane Zoe 2008 Projected Damage Areas	
Generated By: Siemsen, LRL 2330 EDT 05/07/2008	
Sources: HURREVAC LRL-DEBRIS	Page 1 of 26

US Army Corps of Engineers

Hurricane Zoe 2008 Debris Model

Landfall Plus About 12 Hours

For Planning Purposes Only!



Post Landfall Debris Model Results

Virginia - 59,534,000 Yards
Maryland - 14,670,000 Yards
North Carolina - 6,310,000 Yards
Pennsylvania - 2,248,000 Yards
District of Columbia - 2,178,000 Yards

Model results per County on following page

This model is based on a Category 4 storm making landfall on coastal North Carolina.

Forecast Track
Historic Track

Debris

- < 100,000 cubic yards
- 100,000 - 249,999 cubic yards
- 250,000 - 499,999 cubic yards
- 500,000 - 999,999 cubic yards
- >1,000,000 cubic yards

Information provided on this page displays a Category 4 storm making landfall on coastal North Carolina. These projections are based on information from the NHC (2300 EDT 05/07/2008) forecast. The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

Details about this model may be obtained at http://www.englink.usace.army.mil
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Hurricane Zoe 2008 Debris Model	
Generated By: Siemsen, LRL 2330 EDT 05/07/2008	
Sources: HURREVAC LRL-DEBRIS	Page 2 of 26

US Army Corps of Engineers

Hurricane Zoe 2008 Debris Model

Landfall Plus About 12 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
District of Columbia		District of Columbia	2,178,000
District of Columbia	2,178,000		
Maryland		Anne Arundel	1,523,000
		Baltimore	1,898,000
		Baltimore City	1,871,000
		Calvert	380,000
		Carroll	336,000
		Charles	565,000
		Dorchester	35,000
		Frederick	106,000
		Harford	71,000
		Howard	995,000
		Kent	< 1,000
		Montgomery	2,928,000
		Prince George's	3,325,000
		Queen Anne's	26,000
		Somerset	28,000
		St Mary's	550,000
		Talbot	22,000
		Wicomico	3,000
		Worcester	8,000
Maryland	14,670,000		
North Carolina		Beaufort	185,000
		Bertie	117,000
		Camden	398,000
		Carteret	172,000
		Chowan	176,000
		Craven	143,000
		Currituck	999,000

State	Yards per State	County	Yards per County
North Carolina		Dare	1,602,000
(continued)		Edgecombe	2,000
		Gates	169,000
		Halifax	7,000
		Hertford	130,000
		Hyde	193,000
		Jones	2,000
		Martin	59,000
		Northampton	33,000
		Pamlico	55,000
		Pasquotank	1,231,000
		Perquimans	287,000
		Pitt	25,000
		Tyrrell	181,000
		Washington	144,000
North Carolina	6,310,000		
Pennsylvania		Adams	94,000
		Berks	6,000
		Columbia	75,000
		Cumberland	154,000
		Dauphin	470,000
		Lancaster	159,000
		Lebanon	164,000
		Luzerne	33,000
		Lycoming	< 1,000
		Montour	14,000
		Northumberland	100,000
		Perry	8,000

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

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Hurricane Zoe 2008 Debris Model

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Siemsen, LRL 2330 EDT 05/07/2008

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Zoe 2008 Debris Model

Landfall Plus About 12 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
Pennsylvania		Schuylkil	114,000
(continued)		Snyder	< 1,000
		Sullivan	< 1,000
		Wyoming	2,000
		York	855,000
Pennsylvania	2,248,000		
Virginia		Accomack	119,000
		Alexandria city	628,000
		Arlington	879,000
		Caroline	65,000
		Charles City	51,000
		Chesapeake city	6,805,000
		Chesterfield	322,000
		Colonial Heights city	54,000
		Dinwiddie	26,000
		Emporia City	5,000
		Essex	105,000
		Fairfax	2,365,000
		Fairfax City	52,000
		Falls Church city	36,000
		Franklin City	53,000
		Fredericksburg city	30,000
		Gloucester	799,000
		Greensville	5,000
		Hampton City	3,871,000
		Hanover	178,000
		Henrico	478,000
		Hopewel City	80,000
		Isle Of Wight	614,000
		James City	1,066,000

State	Yards per State	County	Yards per County
Virginia		King And Queen	101,000
(continued)		King George	69,000
		King William	101,000
		Lancaster	208,000
		Loudoun	157,000
		Manassas City	39,000
		Manassas Park city	14,000
		Mathews	186,000
		Middlesex	216,000
		New Kent	118,000
		Newport News city	6,257,000
		Norfolk City	8,566,000
		Northampton	147,000
		Northumberland	150,000
		Petersburg city	92,000
		Poquoson City	282,000
		Portsmouth city	3,728,000
		Prince George	96,000
		Prince William	542,000
		Richmond	92,000
		Richmond City	391,000
		Southampton	103,000
		Spotsylvania	56,000
		Stafford	120,000
		Suffolk City	1,479,000
		Surry	111,000
		Sussex	59,000
		Virginia Beach city	15,560,000
		Westmoreland	147,000

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

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Hurricane Zoe 2008 Debris Model

Generated By:
Siemsen, LRL 2330 EDT 05/07/2008

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Zoe 2008 Debris Model

Landfall Plus About 12 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
Virginia		Williamsburg city	183,000
(continued)		York	1,398,000
Virginia	59,534,000		

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

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Hurricane Zoe 2008 Debris Model

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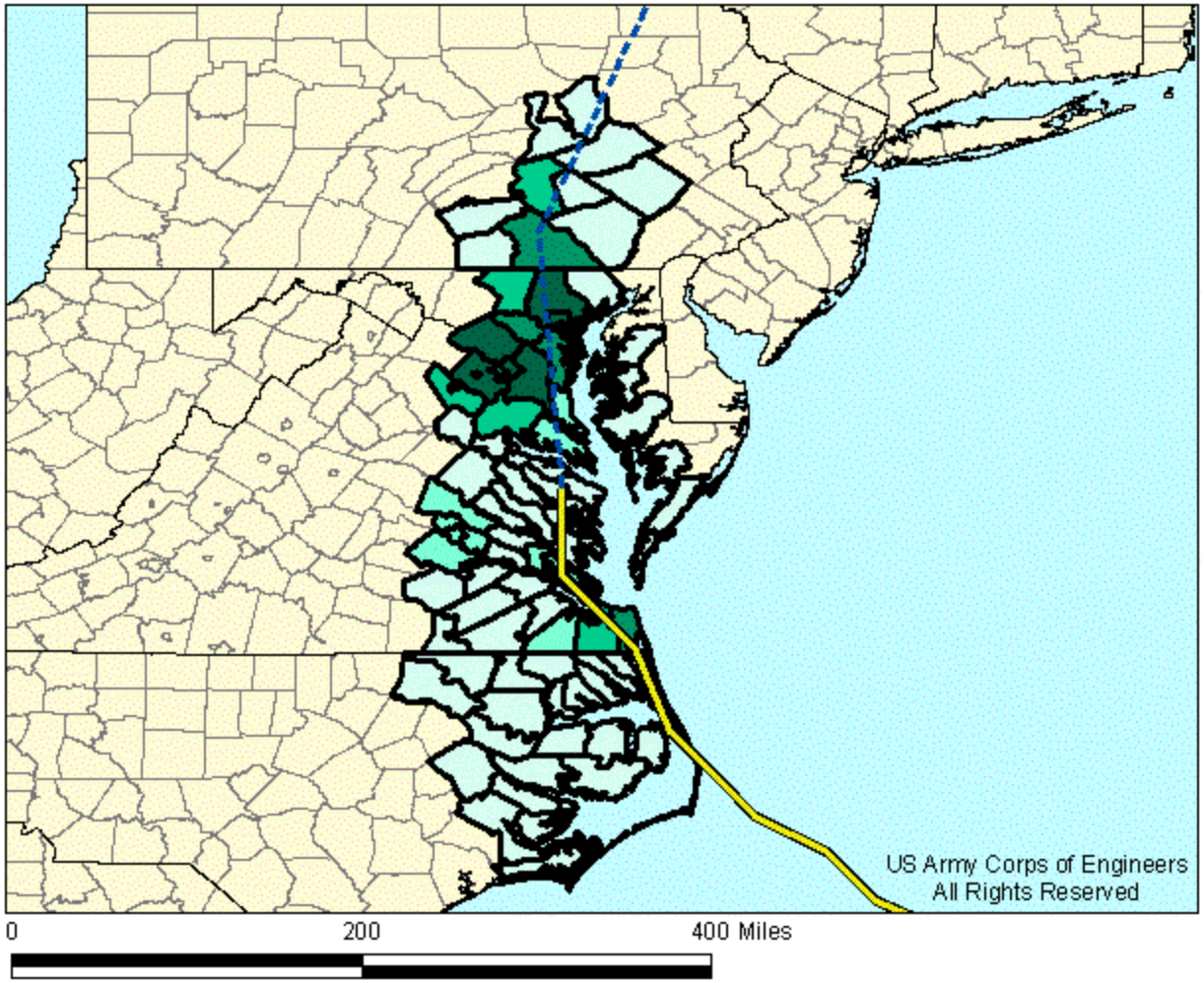
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Zoe 2008 Commodities Model

Landfall Plus About 12 Hours

For Planning Purposes Only!



Post Landfall Water Model Results

Day One / Day Two / Day Three

VA – 78/157/305 Truckloads
MD – 84/167/334 Truckloads
PA – 15/30/61 Truckloads
DC – 12/24/47 Truckloads
NC – 10/20/40 Truckloads

Model results per County on following page

This model is based on a Category 4 storm making landfall on coastal North Carolina.

Forecast Track
Historic Track

Commodities

- < 5 Trucks Each
- 5 - 10 Trucks Each
- 11 - 20 Trucks Each
- 21 - 40 Trucks Each
- > 40 Trucks Each

Information provided on this page displays a Category 4 storm making landfall on coastal North Carolina. These projections are based on information from the NHC ***(2300 EDT 05/07/2008)*** forecast. The amount of commodities forecasted is based on Mission Guide Book requirements and SME input. The graphic represents single day needs with full distribution system in place and operating.

Details about this model may be obtained at http://www.englink.usace.army.mil
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Hurricane Zoe 2008 Commodities Model	
Generated By: Siemsen, LRL 2330 EDT 05/07/2008	
Sources: HURREVAC LRL-DEBRIS	Page 6 of 26

US Army Corps of Engineers

Hurricane Zoe 2008 Commodities Model

Landfall Plus About 12 Hours

For Planning Purposes Only!

State	Truckloads per State	County	Truckloads per County
District of Columbia		District of Columbia	47
District of Columbia	47		
Maryland		Anne Arundel	40
		Baltimore	44
		Baltimore City	51
		Calvert	8
		Carroll	12
		Charles	12
		Dorchester	1
		Harford	1
		Howard	22
		Montgomery	64
		Prince George's	68
		Queen Anne's	1
		Somerset	1
		St Mary's	8
		Talbot	1
Maryland	334		
North Carolina		Beaufort	4
		Bertie	2
		Camden	1
		Carteret	4
		Chowan	2
		Craven	3
		Currituck	2
		Dare	3
		Gates	1
		Halifax	1
		Hertford	2

State	Truckloads per State	County	Truckloads per County
North Carolina		Hyde	1
(continued)		Martin	2
		Northampton	1
		Pamlico	2
		Pasquotank	4
		Perquimans	1
		Pitt	1
		Tyrrell	1
		Washington	2
North Carolina	40		
Pennsylvania		Adams	1
		Berks	1
		Columbia	1
		Cumberland	1
		Dauphin	16
		Lancaster	3
		Lebanon	4
		Northumberland	3
		Schuylkill	2
		York	29
Pennsylvania	61		
Virginia		Accomack	3
		Alexandria city	12
		Arlington	17
		Caroline	2
		Charles City	1
		Chesapeake city	18

The amount of commodities forecasted is based on Mission Guide Book requirements and SME input and the above table indicates suggested needs based on phased deployment of a commodities distribution system.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

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Hurricane Zoe 2008 Commodities Model

Generated By:
Siemsen, LRL 2330 EDT 05/07/2008

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Zoe 2008 Commodities Model

Landfall Plus About 12 Hours

For Planning Purposes Only!

State	Truckloads per State	County	Truckloads per County
Virginia		Chesterfield	5
(continued)		Colonial Heights city	2
		Dinwiddie	1
		Essex	1
		Fairfax	55
		Fairfax City	2
		Falls Church city	1
		Franklin City	1
		Gloucester	4
		Greensville	1
		Hampton City	12
		Hanover	6
		Henrico	7
		Hopewell City	2
		Isle Of Wight	3
		James City	5
		King And Queen	1
		King George	2
		King William	2
		Lancaster	1
		Mathews	1
		Middlesex	1
		New Kent	2
		Newport News city	15
		Norfolk City	19
		Northampton	2
		Northumberland	2
		Petersburg city	3
		Poquoson City	1
		Portsmouth city	9
		Prince George	3

State	Truckloads per State	County	Truckloads per County
Virginia		Prince William	14
(continued)		Richmond	1
		Richmond City	5
		Southampton	2
		Stafford	1
		Suffolk City	7
		Surry	1
		Sussex	1
		Virginia Beach city	35
		Westmoreland	2
		Williamsburg city	1
		York	5
Virginia	305		

The amount of commodities forecasted is based on Mission Guide Book requirements and SME input and the above table indicates suggested needs based on phased deployment of a commodities distribution system.

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Hurricane Zoe 2008 Commodities Model

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Sources:
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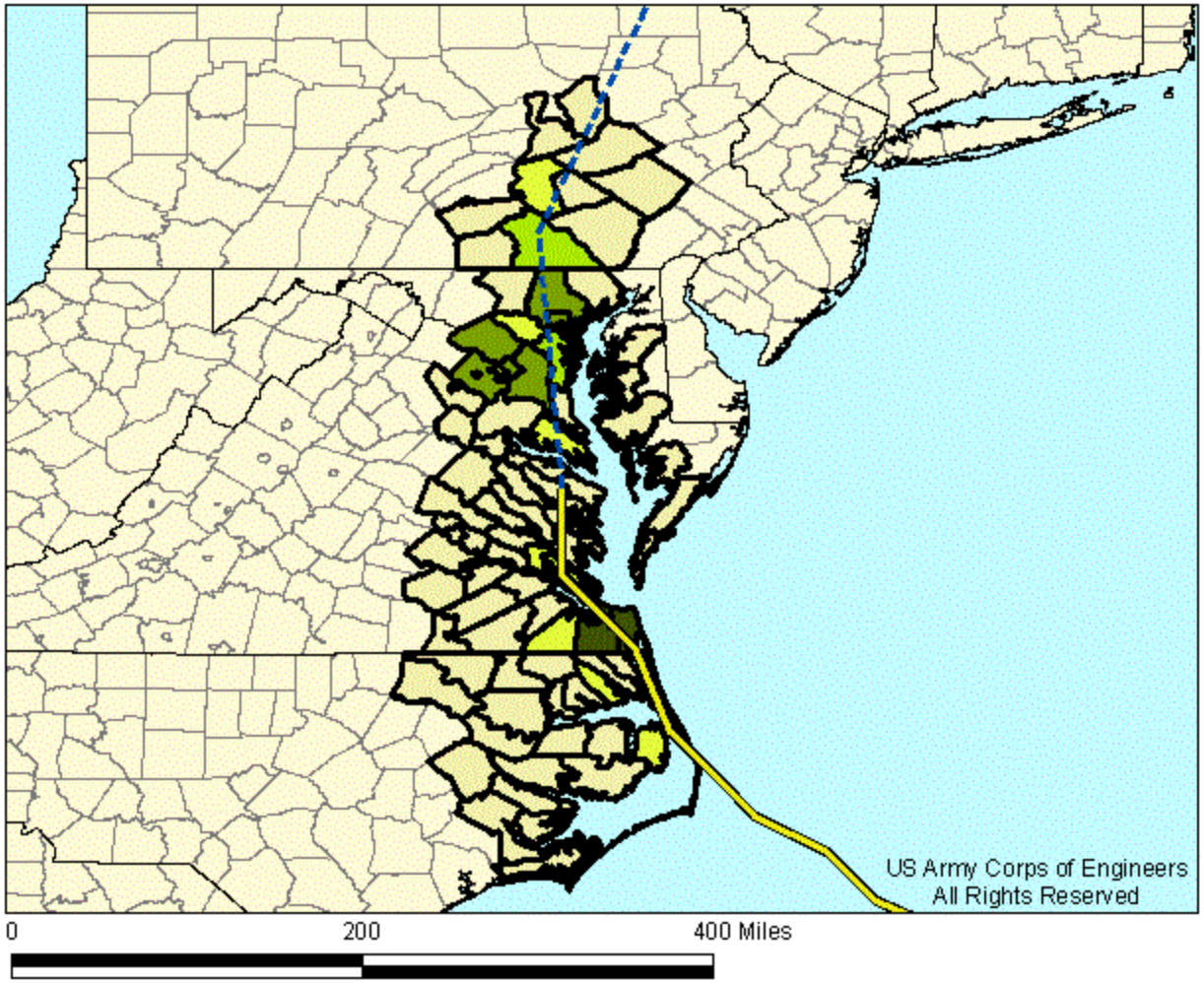
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Zoe 2008 Temporary Roofing Model

Landfall Plus About 12 Hours

For Planning Purposes Only!



Post Landfall Temporary Roofing Model Results

Virginia - 106,600
Maryland - 47,400
North Carolina - 11,900
Pennsylvania - 8,800
District of Columbia - 7,700

Model results per County on following page

This model is based on a Category 4 storm making landfall on coastal North Carolina.

Forecast Track
Historic Track

Temporary Roofing

- < 2,000 units
- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

Information provided on this page displays a Category 4 storm making landfall on coastal North Carolina. These projections are based on information from the NHC (2300 EDT 05/07/2008) forecast. Temporary roofing is based on 3% in CAT 1, 6% in CAT 2, 10% in CAT 3 and 16% in CAT 4.

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Hurricane Zoe 2008 Roofing Model

Generated By:
Siemsen, LRL 2330 EDT 05/07/2008

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Zoe 2008 Temporary Roofing Model

Landfall Plus About 12 Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
District of Columbia		District of Columbia	7,700
District of Columbia	7,700		
Maryland		Anne Arundel	5,500
		Baltimore	6,500
		Baltimore City	7,600
		Calvert	1,300
		Carroll	1,600
		Charles	1,600
		Dorchester	< 100
		Harford	< 100
		Howard	3,000
		Montgomery	9,000
		Prince George's	9,100
		Queen Anne's	< 100
		Somerset	< 100
		St Mary's	2,200
		Talbot	< 100
Maryland	47,400		
North Carolina		Beaufort	600
		Bertie	400
		Camden	600
		Carteret	700
		Chowan	500
		Craven	300
		Currituck	1,500
		Dare	2,300
		Gates	400
		Halifax	< 100
		Hertford	500

State	House Units per State	County	House Units per County
North Carolina		Hyde	200
(continued)		Martin	300
		Northampton	< 100
		Pamlico	200
		Pasquotank	2,200
		Perquimans	600
		Pitt	< 100
		Tyrrell	200
		Washington	400
North Carolina	11,900		
Pennsylvania		Adams	200
		Berks	< 100
		Columbia	< 100
		Cumberland	200
		Dauphin	2,400
		Lancaster	400
		Lebanon	600
		Northumberland	500
		Schuylkill	300
		York	4,200
Pennsylvania	8,800		
Virginia		Accomack	400
		Alexandria city	2,000
		Arlington	2,800
		Caroline	200
		Charles City	200
		Chesapeake city	11,700

Temporary roofing is based on 3% in CAT 1, 6% in CAT 2, 10% in CAT 3 and 16% in CAT 4.

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Hurricane Zoe 2008 Roofing Model

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Sources:
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LRL-DEBRIS

US Army Corps of Engineers

Hurricane Zoe 2008 Temporary Roofing Model

Landfall Plus About 12 Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
Virginia		Chesterfield	700
(continued)		Colonial Heights city	300
		Dinwiddie	< 100
		Essex	300
		Fairfax	7,600
		Fairfax City	200
		Falls Church city	200
		Franklin City	300
		Gloucester	1,500
		Greensville	< 100
		Hampton City	5,400
		Hanover	800
		Henrico	1,100
		Hopewell City	300
		Isle Of Wight	1,300
		James City	2,200
		King And Queen	300
		King George	300
		King William	300
		Lancaster	500
		Mathews	400
		Middlesex	500
		New Kent	400
		Newport News city	8,300
		Norfolk City	13,500
		Northampton	500
		Northumberland	400
		Petersburg city	400
		Poquoson City	500
		Portsmouth city	5,800
		Prince George	400

State	House Units per State	County	House Units per County
Virginia		Prince William	1,800
(continued)		Richmond	300
		Richmond City	800
		Southampton	300
		Stafford	< 100
		Suffolk City	2,900
		Surry	300
		Sussex	200
		Virginia Beach city	24,900
		Westmoreland	500
		Williamsburg city	400
		York	2,200
Virginia	106,600		

Temporary roofing is based on 3% in CAT 1, 6% in CAT 2, 10% in CAT 3 and 16% in CAT 4.

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Hurricane Zoe 2008 Roofing Model

Generated By:
Siemsen, LRL 2330 EDT 05/07/2008

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Zoe 2008 Temporary Housing Model

US Army Corps of Engineers

Landfall Plus About 12 Hours

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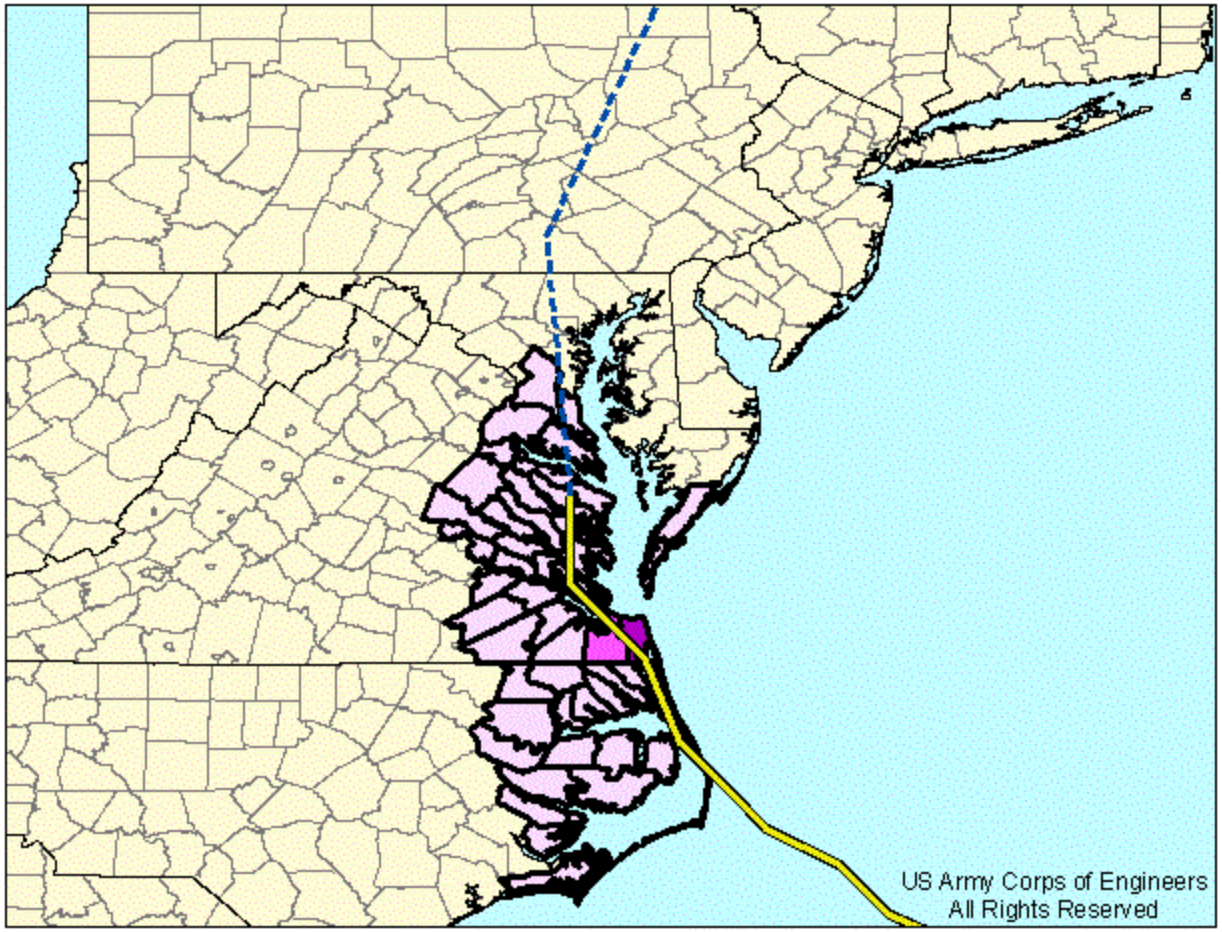

0 200 400 Miles

Post Landfall Temporary Housing Model Results

Virginia - 39,300
North Carolina - 2,700
Maryland - 600

Model results per County on following page

This model is based on a Category 4 storm making landfall on coastal North Carolina.

Forecast Track
Historic Track

Temporary Housing

- < 2,000 units
- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

Information provided on this page displays a Category 4 storm making landfall on coastal North Carolina. These projections are based on information from the NHC (2300 EDT 05/07/2008) forecast. Temporary housing is based on 1% in CAT 2, 3% in CAT 3 and 6% in CAT 4.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Zoe 2008 Housing Model	
Generated By: Siemsen, LRL 2330 EDT 05/07/2008	
Sources: HURREVAC LRL-DEBRIS	Page 12 of 26

US Army Corps of Engineers

Hurricane Zoe 2008 Temporary Housing Model

Landfall Plus About 12 Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
Maryland		Calvert	200
		Charles	< 100
		Prince George's	< 100
		St Mary's	400
Maryland	600		
North Carolina		Beaufort	< 100
		Bertie	< 100
		Camden	200
		Carteret	< 100
		Chowan	< 100
		Currituck	600
		Dare	900
		Gates	< 100
		Hertford	< 100
		Hyde	< 100
		Martin	< 100
		Pamlico	< 100
		Pasquotank	800
		Perquimans	200
		Tyrrell	< 100
		Washington	< 100
North Carolina	2,700		
Virginia		Accomack	< 100
		Caroline	< 100
		Charles City	< 100
		Chesapeake city	4,300
		Essex	< 100
		Franklin City	< 100
		Gloucester	500

State	House Units per State	County	House Units per County
Virginia		Hampton City	1,700
(continued)		Hanover	< 100
		Henrico	< 100
		Isle Of Wight	400
		James City	700
		King And Queen	< 100
		King George	< 100
		King William	< 100
		Lancaster	200
		Mathews	200
		Middlesex	200
		New Kent	< 100
		Newport News city	2,500
		Norfolk City	5,100
		Northampton	< 100
		Northumberland	< 100
		Poquoson City	200
		Portsmouth city	2,200
		Prince George	< 100
		Richmond	< 100
		Southampton	< 100
		Suffolk City	900
		Surry	< 100
		Sussex	< 100
		Virginia Beach city	9,300
		Westmoreland	< 100
		Williamsburg city	200
		York	700
Virginia	39,300		

Temporary housing is based on 1% in CAT 2, 3% in CAT 3 and 6% in CAT 4.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

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Hurricane Zoe 2008 Housing Model

Generated By:
Siemsen, LRL 2330 EDT 05/07/2008

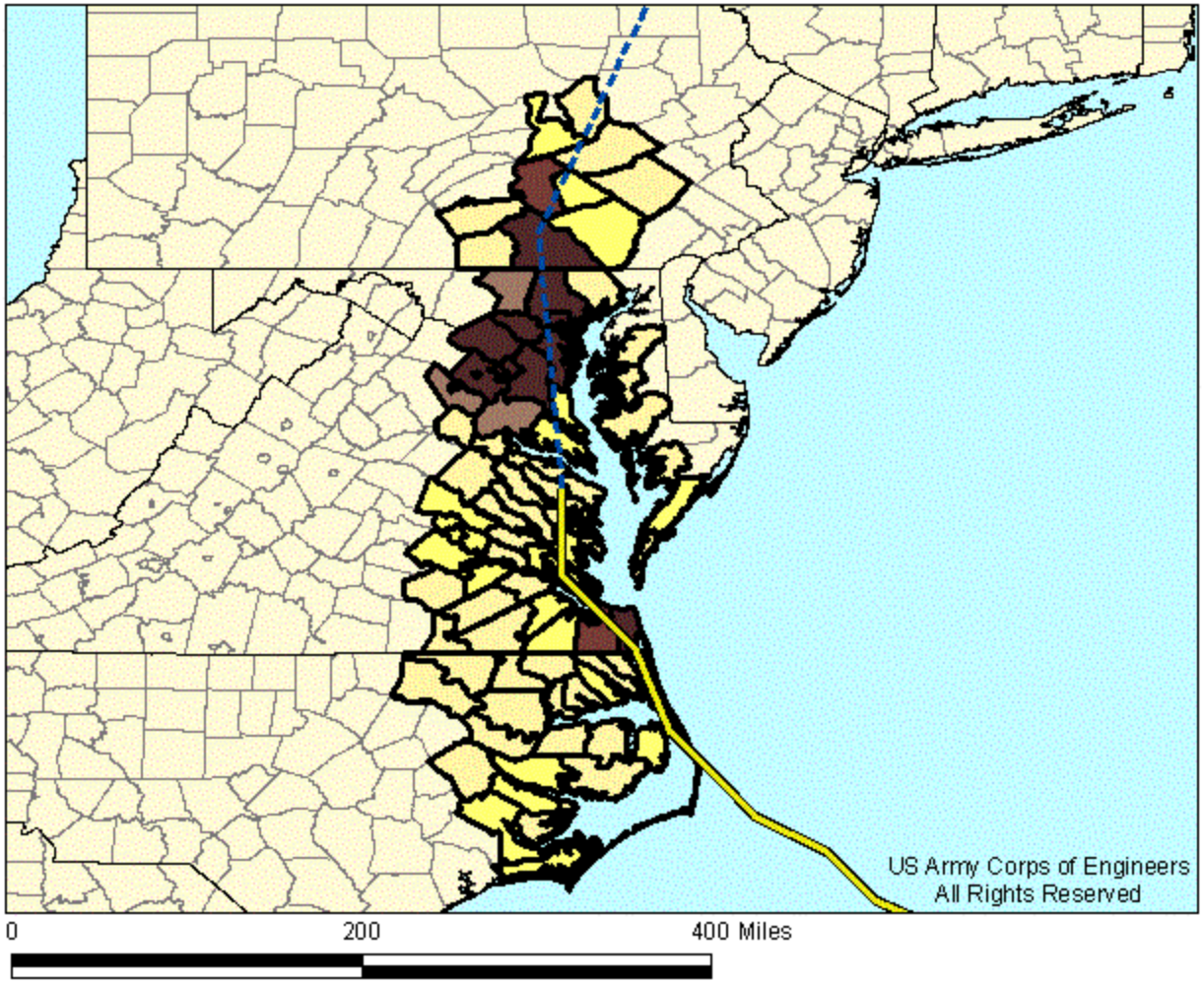
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Zoe 2008 Population Model

Landfall Plus About 12 Hours

For Planning Purposes Only!



Post Landfall Population Model Results

Virginia - 3,488,000
Maryland - 4,073,000
Pennsylvania - 708,000
District of Columbia - 586,000
North Carolina - 372,000

Model results per County on following page

This model is based on a Category 4 storm making landfall on coastal North Carolina.

Forecast Track
Historic Track

Population

- < 25,000 persons
- 25,000 - 99,999 persons
- 100,000 - 174,999 persons
- 175,000 - 249,999 persons
- > 250,000 persons

Information provided on this page displays a Category 4 storm making landfall on coastal North Carolina. These projections are based on information from the NHC (2300 EDT 05/07/2008) forecast. The numbers of persons included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2006 values).

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Zoe 2008 Population Model	
Generated By: Siemsen, LRL 2330 EDT 05/07/2008	
Sources: HURREVAC LRL-DEBRIS	Page 14 of 26

US Army Corps of Engineers

Hurricane Zoe 2008 Population Model

Landfall Plus About 12 Hours

For Planning Purposes Only!

State	Population per State	County	Population per County
District of Columbia		District of Columbia	586,000
District of Columbia	586,000		
Maryland		Anne Arundel	497,000
		Baltimore	542,000
		Baltimore City	636,000
		Calvert	89,000
		Carroll	147,000
		Charles	141,000
		Dorchester	2,000
		Harford	< 1,000
		Howard	273,000
		Montgomery	800,000
		Prince George's	841,000
		Queen Anne's	< 1,000
		Somerset	6,000
		St Mary's	99,000
		Talbot	< 1,000
Maryland	4,073,000		
North Carolina		Beaufort	42,000
		Bertie	19,000
		Camden	10,000
		Carteret	48,000
		Chowan	15,000
		Craven	28,000
		Currituck	24,000
		Dare	34,000
		Gates	12,000
		Halifax	< 1,000
		Hertford	24,000

State	Population per State	County	Population per County
North Carolina		Hyde	6,000
(continued)		Martin	18,000
		Northampton	7,000
		Pamlico	13,000
		Pasquotank	40,000
		Perquimans	13,000
		Pitt	< 1,000
		Tyrrell	5,000
		Washington	14,000
North Carolina	372,000		
Pennsylvania		Adams	11,000
		Berks	< 1,000
		Columbia	3,000
		Cumberland	9,000
		Dauphin	196,000
		Lancaster	35,000
		Lebanon	44,000
		Northumberland	34,000
		Schuylkill	20,000
		York	356,000
Pennsylvania	708,000		
Virginia		Accomack	26,000
		Alexandria city	138,000
		Arlington	201,000
		Caroline	14,000
		Charles City	8,000
		Chesapeake city	221,000

The number of persons estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2006 values.

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Hurricane Zoe 2008 Population Model

Generated By:
Siemsen, LRL 2330 EDT 05/07/2008

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Zoe 2008 Population Model

Landfall Plus About 12 Hours

For Planning Purposes Only!

State	Population per State	County	Population per County
Virginia		Chesterfield	59,000
(continued)		Colonial Heights city	18,000
		Dinwiddie	2,000
		Essex	11,000
		Fairfax	687,000
		Fairfax City	15,000
		Falls Church city	11,000
		Franklin City	9,000
		Gloucester	39,000
		Greensville	< 1,000
		Hampton City	146,000
		Hanover	64,000
		Henrico	85,000
		Hopewell City	23,000
		Isle Of Wight	35,000
		James City	60,000
		King And Queen	7,000
		King George	22,000
		King William	16,000
		Lancaster	12,000
		Mathews	10,000
		Middlesex	11,000
		New Kent	17,000
		Newport News city	188,000
		Norfolk City	229,000
		Northampton	14,000
		Northumberland	13,000
		Petersburg city	33,000
		Poquoson City	12,000
		Portsmouth city	102,000
		Prince George	37,000

State	Population per State	County	Population per County
Virginia		Prince William	166,000
(continued)		Richmond	10,000
		Richmond City	63,000
		Southampton	18,000
		Stafford	7,000
		Suffolk City	82,000
		Surry	8,000
		Sussex	11,000
		Virginia Beach city	436,000
		Westmoreland	18,000
		Williamsburg city	12,000
		York	62,000
Virginia	3,488,000		

The number of persons estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2006 values.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Zoe 2008 Population Model

Generated By:
Siemsen, LRL 2330 EDT 05/07/2008

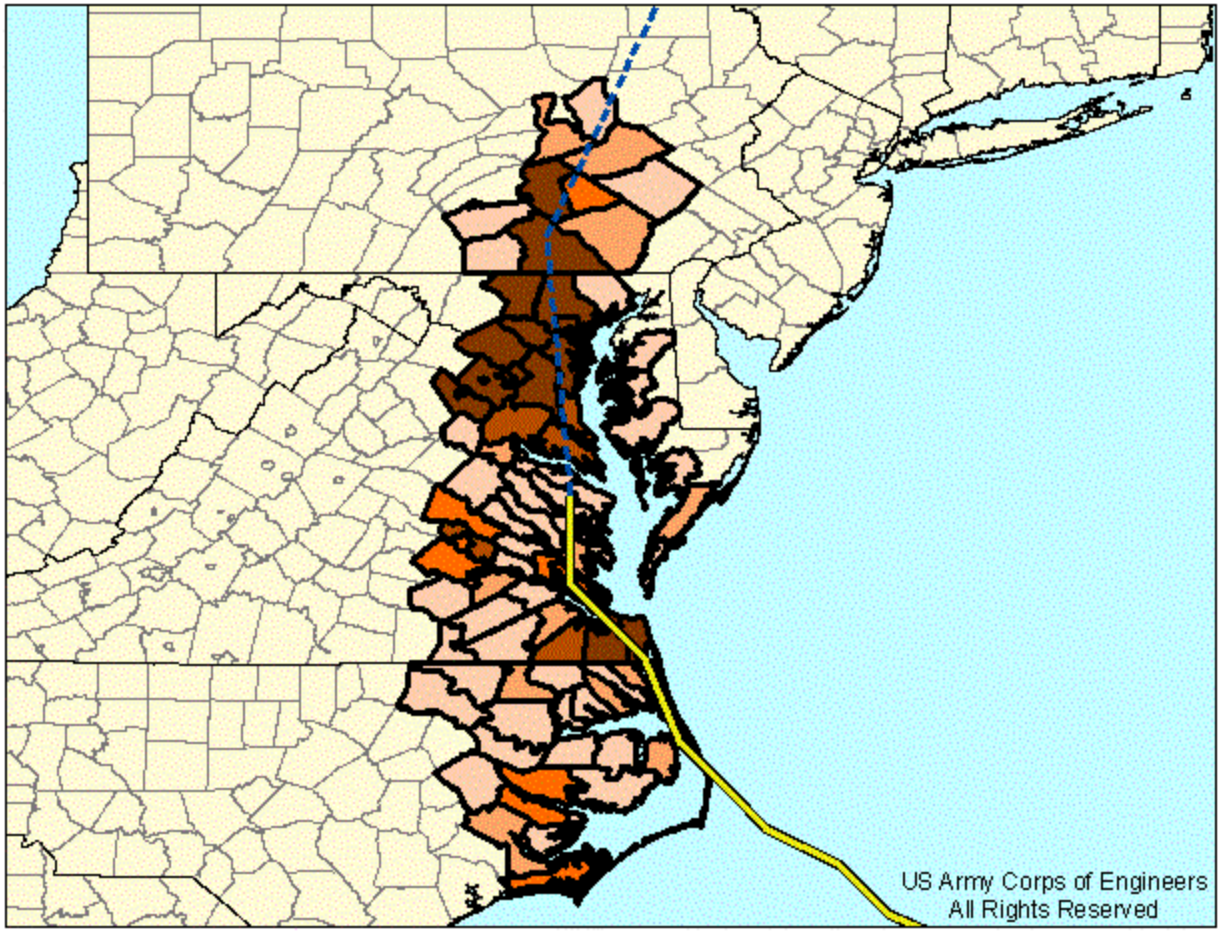
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Zoe 2008 Households Model

Landfall Plus About 12 Hours

For Planning Purposes Only!



0 200 400 Miles

Post Landfall Households Model Results

Virginia - 1,294,000
Maryland - 1,520,000
Pennsylvania - 281,000
District of Columbia - 255,000
North Carolina - 153,000

Model results per County on following page

This model is based on a Category 4 storm making landfall on coastal North Carolina.

Forecast Track
Historic Track

Households

- < 7,500 households
- 7,500 - 14,999 households
- 15,000 - 24,999 households
- 25,000 - 49,999 households
- > 50000 households

Information provided on this page displays a Category 4 storm making landfall on coastal North Carolina. These projections are based on information from the NHC (2300 EDT 05/07/2008) forecast. The numbers of households included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2006 values).

Details about this model may be obtained at http://www.englink.usace.army.mil
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Hurricane Zoe 2008 Households Model	
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Sources: HURREVAC LRL-DEBRIS	Page 17 of 26

US Army Corps of Engineers

Hurricane Zoe 2008 Households Model

Landfall Plus About 12 Hours

For Planning Purposes Only!

State	Households per State	County	Households per County
District of Columbia		District of Columbia	255,000
District of Columbia	255,000		
Maryland		Anne Arundel	182,000
		Baltimore	216,000
		Baltimore City	252,000
		Calvert	31,000
		Carroll	51,000
		Charles	49,000
		Dorchester	< 1,000
		Harford	< 1,000
		Howard	99,000
		Montgomery	300,000
		Prince George's	301,000
		Queen Anne's	< 1,000
		Somerset	3,000
		St Mary's	36,000
		Talbot	< 1,000
Maryland	1,520,000		
North Carolina		Beaufort	17,000
		Bertie	8,000
		Camden	4,000
		Carteret	21,000
		Chowan	6,000
		Craven	9,000
		Currituck	10,000
		Dare	15,000
		Gates	5,000
		Halifax	< 1,000
		Hertford	10,000

State	Households per State	County	Households per County
North Carolina		Hyde	3,000
(continued)		Martin	7,000
		Northampton	3,000
		Pamlico	6,000
		Pasquotank	15,000
		Perquimans	6,000
		Pitt	< 1,000
		Tyrrell	2,000
		Washington	6,000
North Carolina	153,000		
Pennsylvania		Adams	4,000
		Berks	< 1,000
		Columbia	< 1,000
		Cumberland	5,000
		Dauphin	79,000
		Lancaster	13,000
		Lebanon	17,000
		Northumberland	15,000
		Schuylkill	8,000
		York	140,000
Pennsylvania	281,000		
Virginia		Accomack	10,000
		Alexandria city	67,000
		Arlington	92,000
		Caroline	5,000
		Charles City	3,000
		Chesapeake city	78,000

The number of households estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2006 values.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

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Hurricane Zoe 2008 Households Model

Generated By:
Siemsen, LRL 2330 EDT 05/07/2008

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Zoe 2008 Households Model

Landfall Plus About 12 Hours

For Planning Purposes Only!

State	Households per State	County	Households per County
Virginia		Chesterfield	22,000
(continued)		Colonial Heights city	8,000
		Dinwiddie	< 1,000
		Essex	5,000
		Fairfax	251,000
		Fairfax City	6,000
		Falls Church city	5,000
		Franklin City	4,000
		Gloucester	15,000
		Greensville	< 1,000
		Hampton City	54,000
		Hanover	23,000
		Henrico	34,000
		Hopewell City	10,000
		Isle Of Wight	14,000
		James City	24,000
		King And Queen	3,000
		King George	8,000
		King William	6,000
		Lancaster	5,000
		Mathews	4,000
		Middlesex	5,000
		New Kent	7,000
		Newport News city	83,000
		Norfolk City	85,000
		Northampton	6,000
		Northumberland	6,000
		Petersburg city	14,000
		Poquoson City	5,000
		Portsmouth city	39,000
		Prince George	12,000

State	Households per State	County	Households per County
Virginia		Prince William	58,000
(continued)		Richmond	4,000
		Richmond City	24,000
		Southampton	7,000
		Stafford	3,000
		Suffolk City	30,000
		Surry	3,000
		Sussex	4,000
		Virginia Beach city	159,000
		Westmoreland	8,000
		Williamsburg city	4,000
		York	22,000
Virginia	1,294,000		

The number of households estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2006 values.

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Hurricane Zoe 2008 Households Model

Generated By:
Siemsen, LRL 2330 EDT 05/07/2008

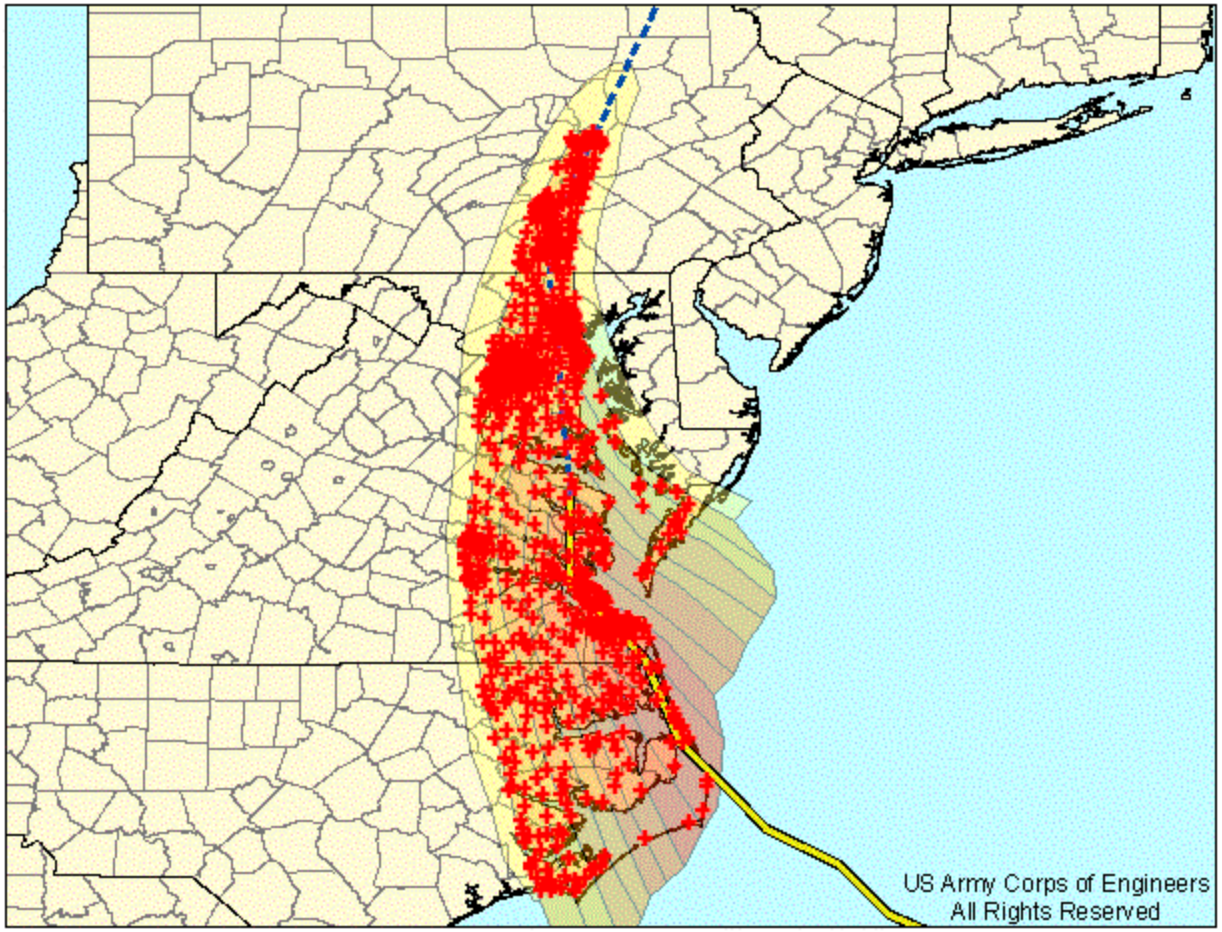
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Zoe 2008 Fire Stations

Landfall Plus About 12 Hours

For Planning Purposes Only!



0 200 400 Miles

Most Probable Landfall Fire Stations Inside Hurricane Force Winds

Virginia - 274
Maryland - 249
Pennsylvania - 150
North Carolina - 142
District of Columbia - 34

Model results per County on following page

This model is based on a Category 4 storm making landfall on coastal North Carolina.

Fire Stations
Forecast Track
Historic Track

Information provided on this page displays a Category 4 storm making landfall on coastal North Carolina. These projections are based on information from the NHC (2300 EDT 05/07/2008) forecast.

The number of fire stations included in this output are those that would be included within estimated hurricane force winds (data source: Homeland Security Infrastructure Program).

Details about this model may be obtained at http://www.englinkusace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

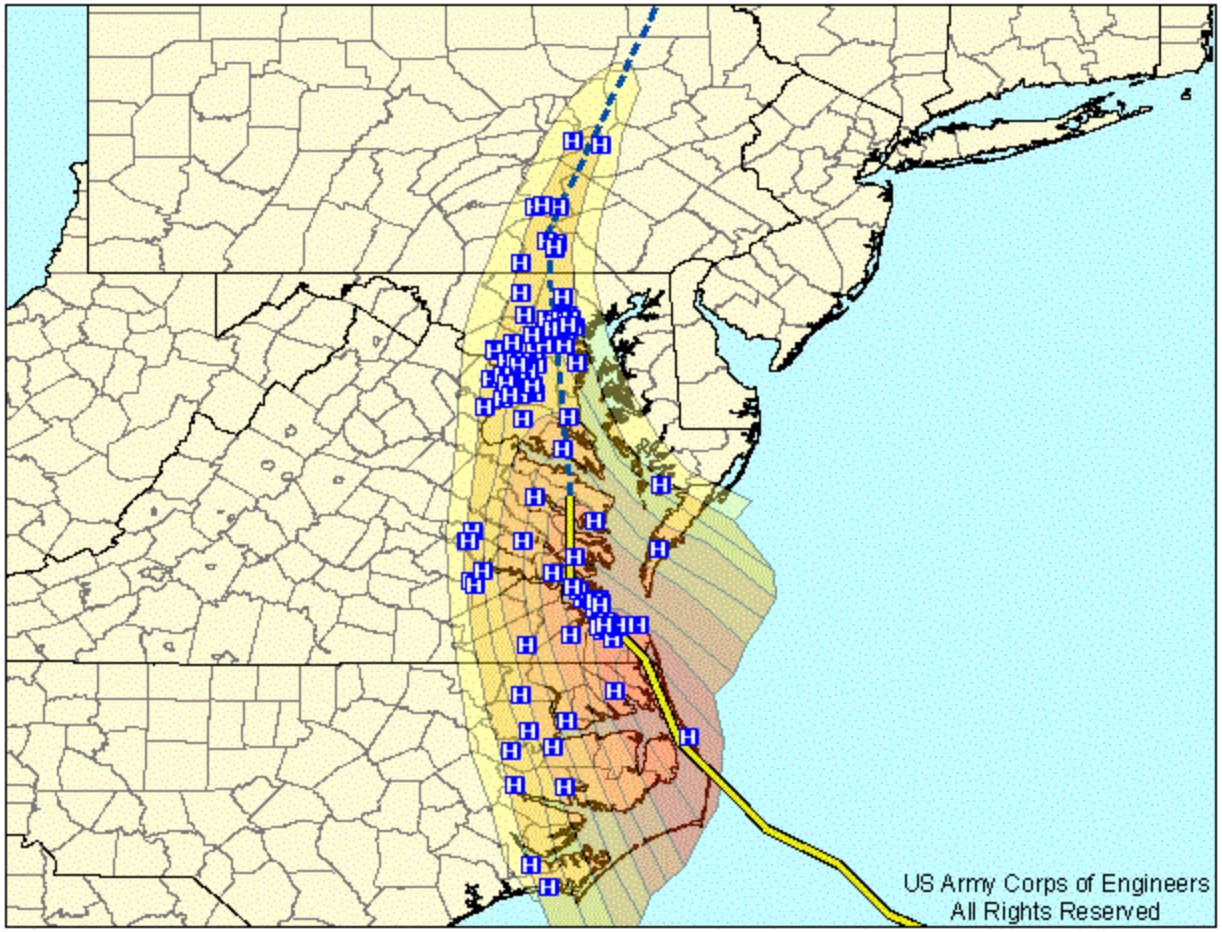
Hurricane Zoe 2008 Fire Stations	
Generated By: Siemsen, LRL 2330 EDT 05/07/2008	
Sources: HURREVAC LRL-DEBRIS	Page 20 of 26

US Army Corps of Engineers

Hurricane Zoe 2008 Hospitals

Landfall Plus About 12 Hours

For Planning Purposes Only!



0 200 400 Miles

Most Probable Landfall Hospitals Inside Hurricane Force Winds

Maryland - 54
Virginia - 53
District of Columbia - 18
Pennsylvania - 11
North Carolina - 11

Model results per County on following page

This model is based on a Category 4 storm making landfall on coastal North Carolina.

Hospitals
Forecast Track
Historic Track

Information provided on this page displays a Category 4 storm making landfall on coastal North Carolina. These projections are based on information from the NHC (2300 EDT 05/07/2008) forecast.

The number of hospitals included in this output are those that would be included within estimated hurricane force winds (data source: Homeland Security Infrastructure Program).

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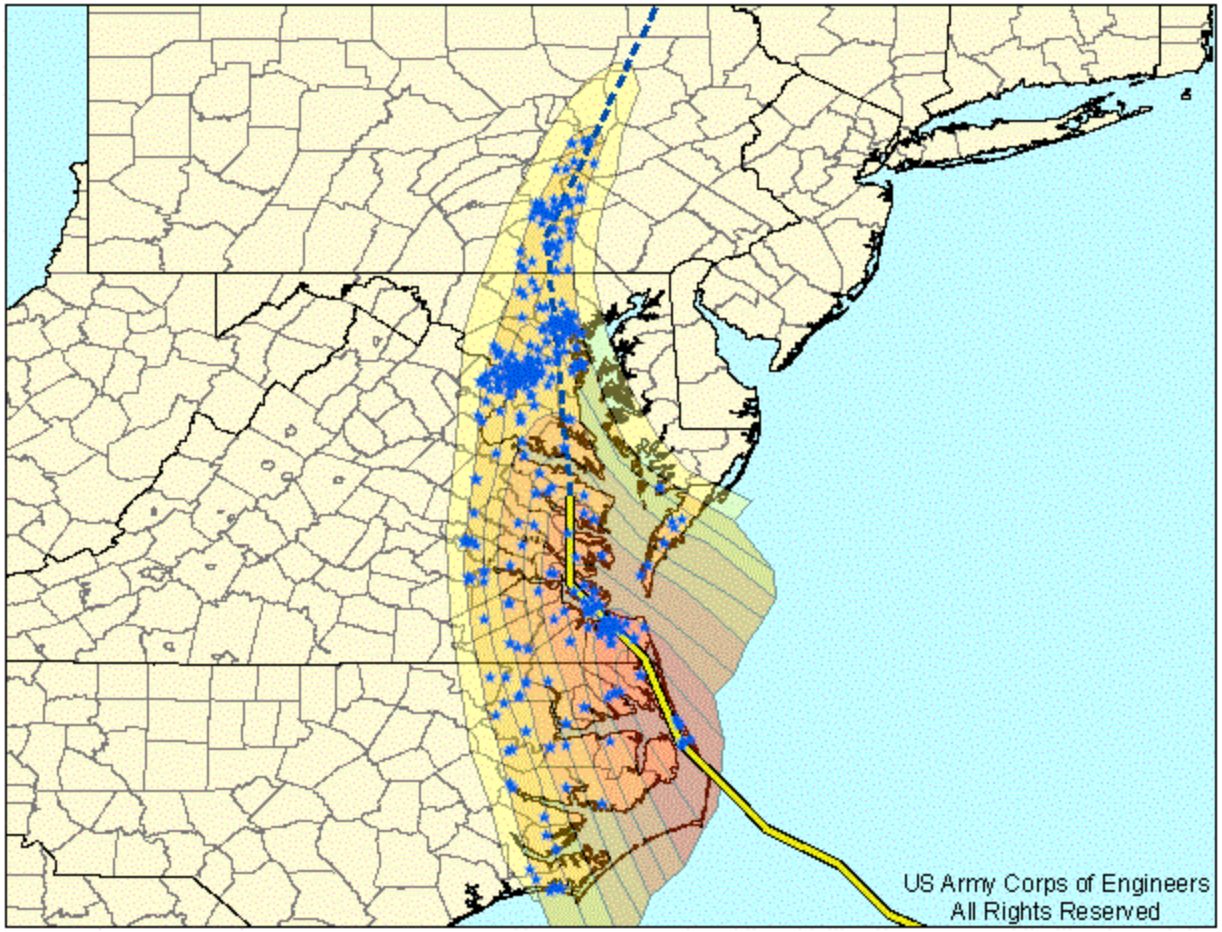
Hurricane Zoe 2008 Hospitals	
Generated By: Siemsen, LRL 2330 EDT 05/07/2008	
Sources: HURREVAC LRL-DEBRIS	Page 21 of 26

US Army Corps of Engineers

Hurricane Zoe 2008 Law Enforcement

Landfall Plus About 12 Hours

For Planning Purposes Only!



0 200 400 Miles

Most Probable Landfall Law Enforcement Inside Hurricane Force Winds

Virginia - 131
Maryland - 127
Pennsylvania - 52
North Carolina - 50
District of Columbia - 27

Model results per County on following page

This model is based on a Category 4 storm making landfall on coastal North Carolina.

Law Enforcement
Forecast Track
Historic Track

Information provided on this page displays a Category 4 storm making landfall on coastal North Carolina. These projections are based on information from the NHC (2300 EDT 05/07/2008) forecast.

The number of law enforcement included in this output are those that would be included within estimated hurricane force winds (data source: Homeland Security Infrastructure Program).

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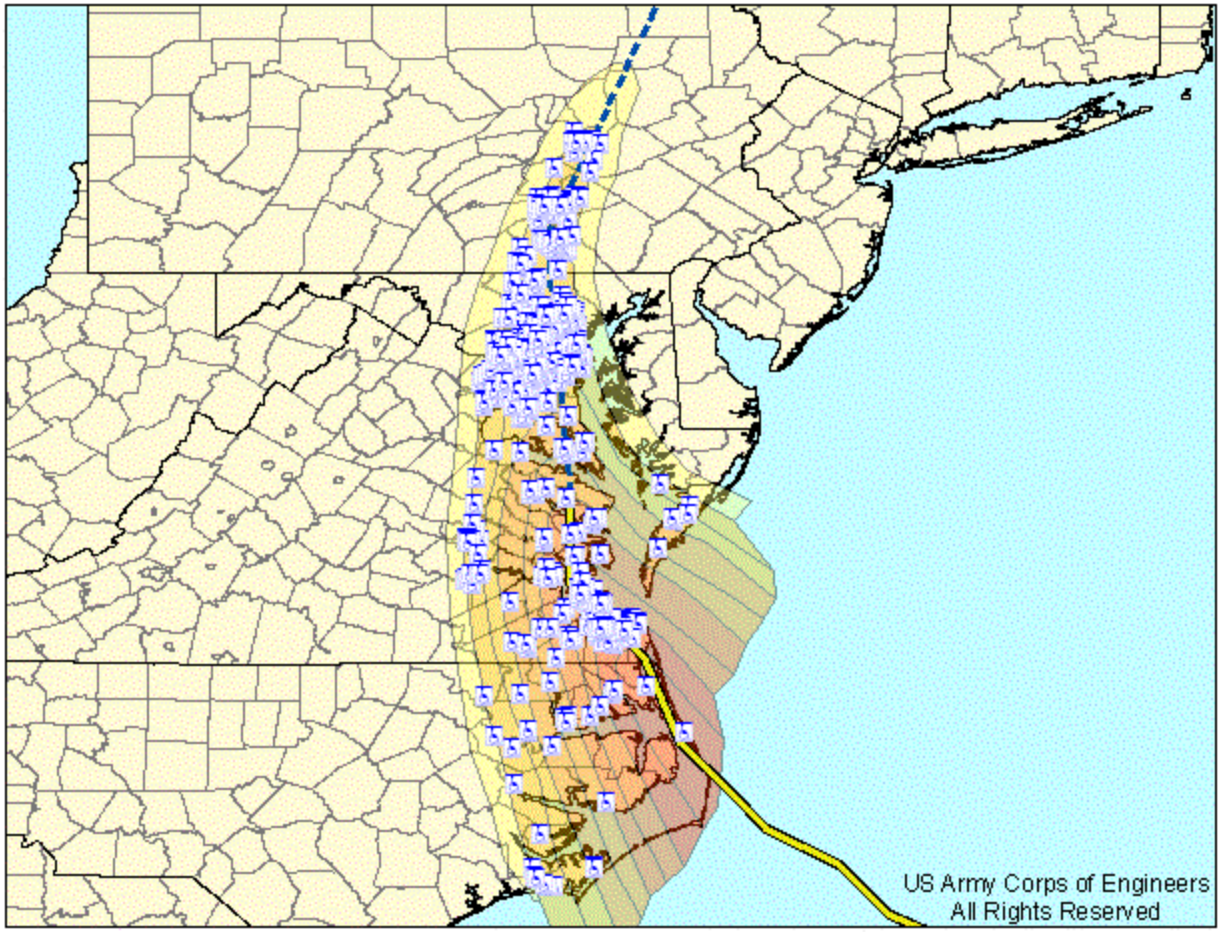
Hurricane Zoe 2008 Law Enforcement	
Generated By: Siemsen, LRL 2330 EDT 05/07/2008	
Sources: HURREVAC LRL-DEBRIS	Page 22 of 26

US Army Corps of Engineers

Hurricane Zoe 2008 Nursing Homes

Landfall Plus About 12 Hours

For Planning Purposes Only!



0 200 400 Miles

Nursing Homes
Forecast Track
Historic Track

Most Probable Landfall Nursing Homes Inside Hurricane Force Winds

Maryland - 508
Virginia - 270
Pennsylvania - 111
District of Columbia - 49
North Carolina - 32

Model results per County on following page

This model is based on a Category 4 storm making landfall on coastal North Carolina.

Information provided on this page displays a Category 4 storm making landfall on coastal North Carolina. These projections are based on information from the NHC (2300 EDT 05/07/2008) forecast.

The number of nursing homes included in this output are those that would be included within estimated hurricane force winds (data source: Homeland Security Infrastructure Program).

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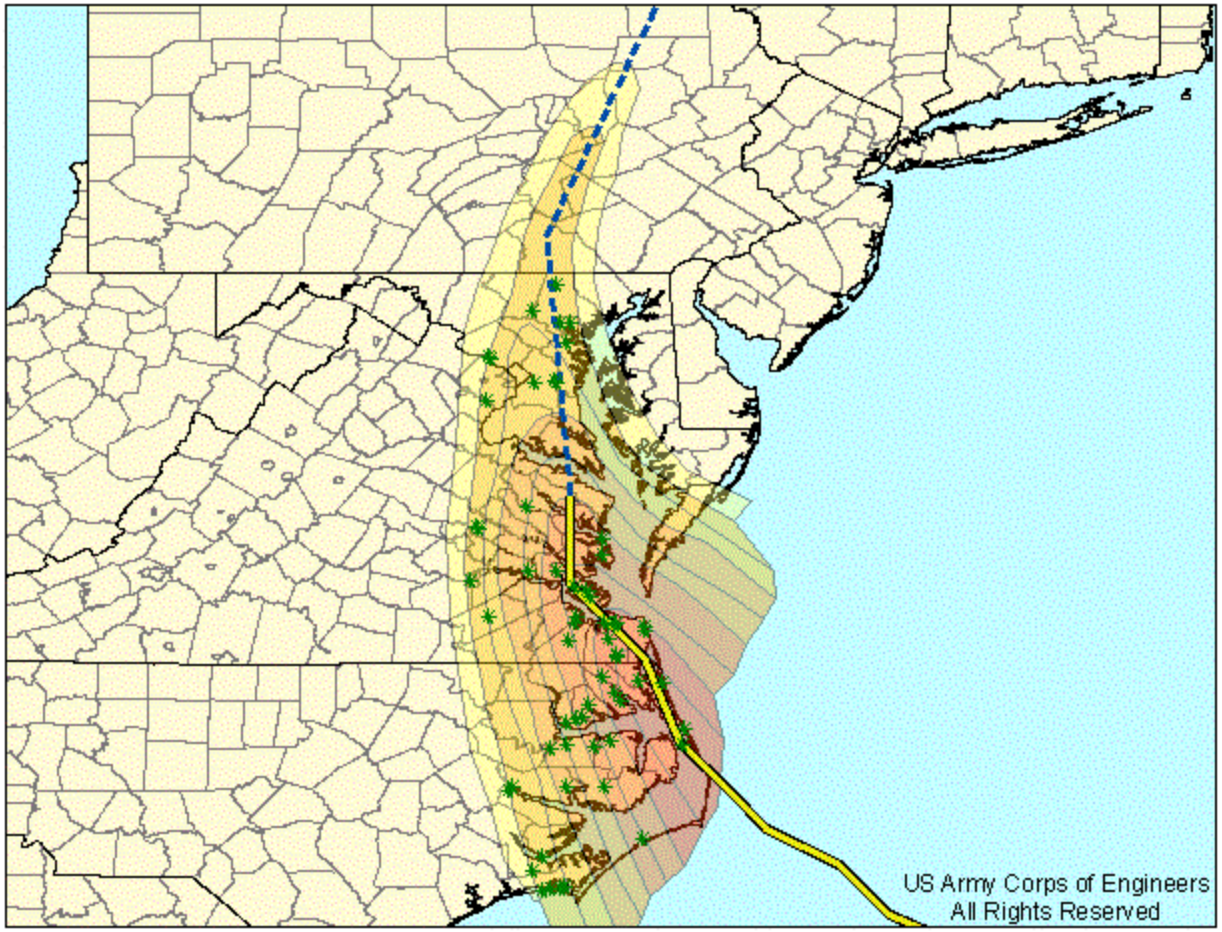
Hurricane Zoe 2008 Nursing Homes	
Generated By: Siemsen, LRL 2330 EDT 05/07/2008	
Sources: HURREVAC LRL-DEBRIS	Page 23 of 26

US Army Corps of Engineers

Hurricane Zoe 2008 Potable Water

Landfall Plus About 12 Hours

For Planning Purposes Only!



0 200 400 Miles

Potable Water
Forecast Track
Historic Track

Most Probable Landfall Potable Water Inside Hurricane Force Winds

North Carolina - 29
Virginia - 27
Maryland - 11

Model results per County on following page

This model is based on a Category 4 storm making landfall on coastal North Carolina.

Information provided on this page displays a Category 4 storm making landfall on coastal North Carolina. These projections are based on information from the NHC (2300 EDT 05/07/2008) forecast.

The number of potable water included in this output are those that would be included within estimated hurricane force winds (data source: Homeland Security Infrastructure Program).

Details about this model may be obtained at http://www.englinkusace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

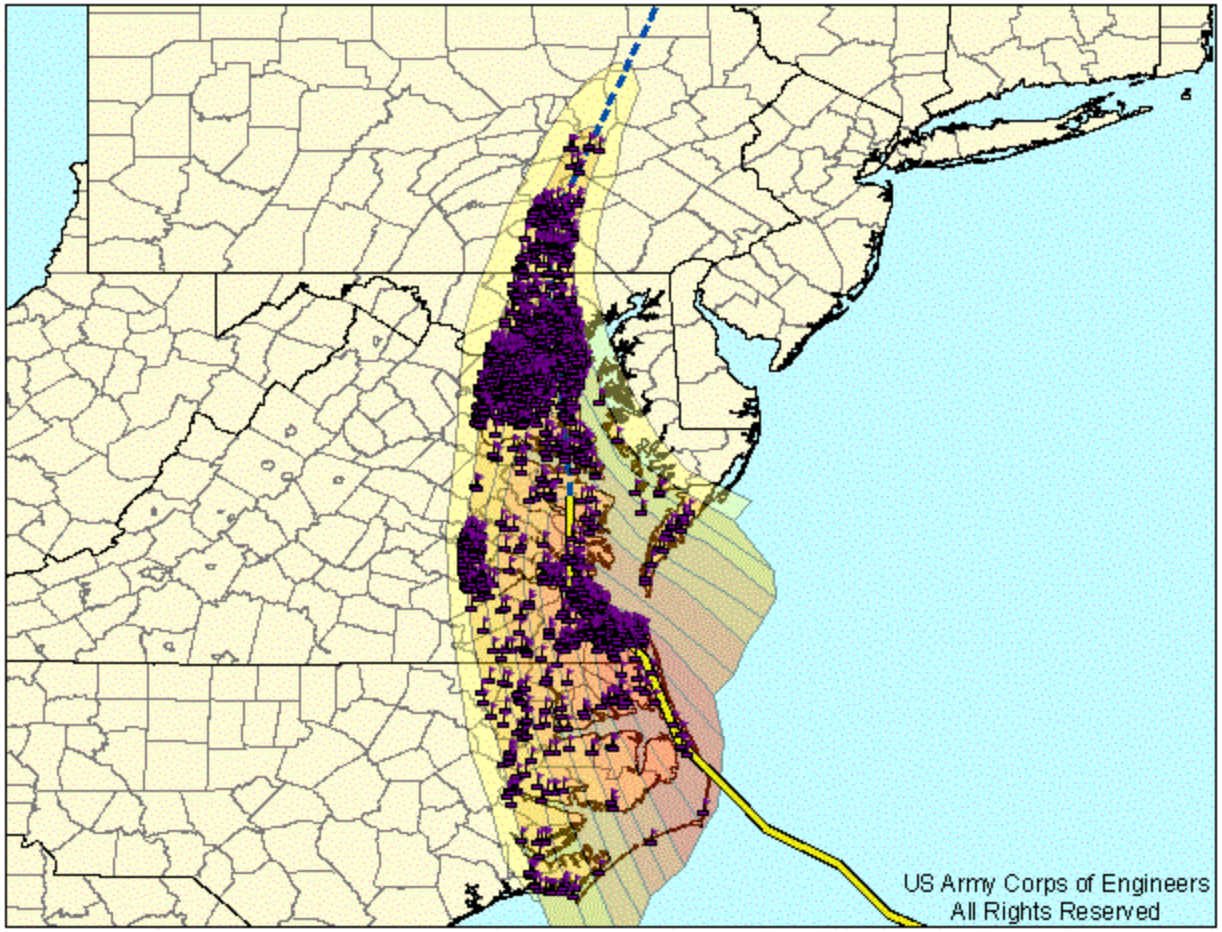
Hurricane Zoe 2008 Potable Water	
Generated By: Siemsen, LRL 2330 EDT 05/07/2008	
Sources: HURREVAC LRL-DEBRIS	Page 24 of 26

US Army Corps of Engineers

Hurricane Zoe 2008 Schools

Landfall Plus About 12 Hours

For Planning Purposes Only!



0 200 400 Miles

Most Probable Landfall Schools Inside Hurricane Force Winds

Maryland - 1,459
Virginia - 1,018
District of Columbia - 280
Pennsylvania - 230
North Carolina - 142

Model results per County on following page

This model is based on a Category 4 storm making landfall on coastal North Carolina.

Schools
Forecast Track
Historic Track

Information provided on this page displays a Category 4 storm making landfall on coastal North Carolina. These projections are based on information from the NHC (2300 EDT 05/07/2008) forecast.

The number of schools included in this output are those that would be included within estimated hurricane force winds (data source: Homeland Security Infrastructure Program).

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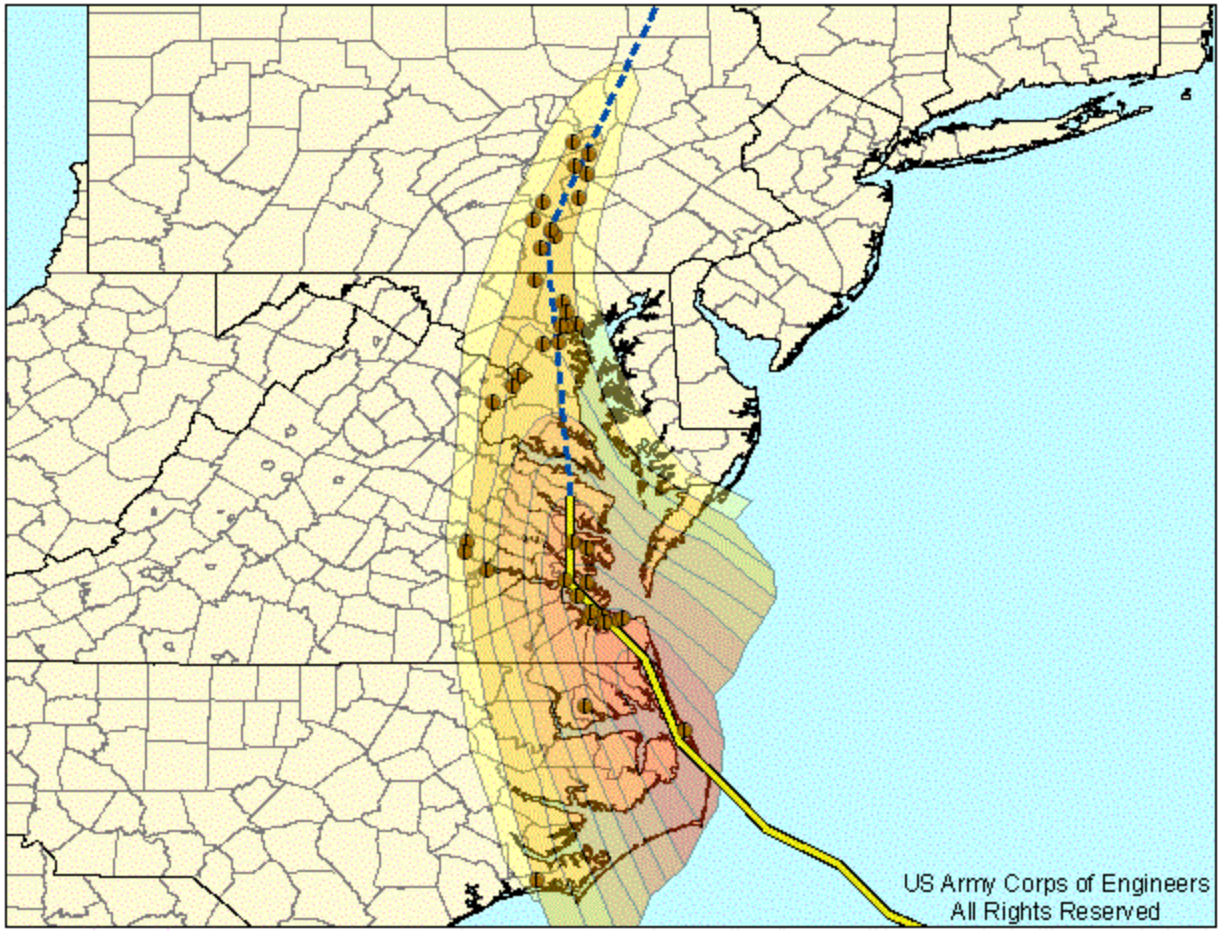
Hurricane Zoe 2008 Schools	
Generated By: Siemsen, LRL 2330 EDT 05/07/2008	
Sources: HURREVAC LRL-DEBRIS	Page 25 of 26

Hurricane Zoe 2008 Sewage Treatment Plants

US Army Corps of Engineers

Landfall Plus About 12 Hours

For Planning Purposes Only!



0 200 400 Miles

Most Probable Landfall Sewage Treatment Plants Inside Hurricane Force Winds

Virginia - 17
Pennsylvania - 10
Maryland - 8
North Carolina - 3
District of Columbia - 1

Model results per County on following page

This model is based on a Category 4 storm making landfall on coastal North Carolina.

- Sewage Treatment Plants
- Forecast Track
- Historic Track

Information provided on this page displays a Category 4 storm making landfall on coastal North Carolina. These projections are based on information from the NHC (2300 EDT 05/07/2008) forecast.

The number of sewage treatment plants included in this output are those that would be included within estimated hurricane force winds (data source: Homeland Security Infrastructure Program).

Details about this model may be obtained at http://www.englinkusace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Zoe 2008 Sewage Treatment Plants	
Generated By: Siemsen, LRL 2330 EDT 05/07/2008	
Sources: HURREVAC LRL-DEBRIS	Page 26 of 26